CLAIMS

1. A flax seed that is the product of a plant line designated M5791 (American Tissue Culture Collection Deposit #PTA-5755), wherein the linolenic acid content of said flax seed is greater than 70%.

2. A flax plant designated M5791 (American Tissue Culture Collection Deposit # PTA-5755), wherein the linolenic acid content of said flax seed is greater than 70%.

3. Progeny of a flax plant designated M5791 (American Tissue Culture Collection Deposit # PTA-5755), wherein said progeny produce seeds having a linolenic acid content of greater than 70% of the total fatty acid content of said seed.

4. The progeny according to claim 3 wherein the linolenic acid content is between 70%-80%.

5. Seed from the flax plants of any one of claims 2, 3 or 4.

6. A method of producing a flax plant line comprising the steps of:

(a) crossing a plant of a flax plant line designated M5791 (American Tissue Culture Collection Deposit # PTA-5755), wherein the linolenic acid content of said flax seed is greater than 70%, or progeny thereof, with an agronomically elite flax plant; and

(b) selecting at least one descendant of said cross, said descendant producing seeds having a linolenic acid content of greater than 70% relative to the total fatty acid content of said seed.

7. The progeny according to claim 3 wherein the linolenic acid content is between 70%-75%.

8. The method according to claim 6 wherein the linolenic acid content is between 70-80%.

9. The method according to claim 6 wherein the linolenic acid content is between 70-75%.

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